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Donald C. Brittingham
Director – Wireless/Spectrum Policy

October 7, 2004

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-A325
Washington, D.C. 20554

Re: *Ex Parte* Presentation
WT Docket No. 03-103; “Air-Ground Telecommunications Services”

Dear Ms. Dortch:

In several recent meetings with Commission staff, Verizon Airfone (“Airfone”) has provided extensive analysis demonstrating that the various band-sharing techniques proposed by other parties in the Air-to-Ground (“ATG”) proceeding are inherently flawed, because they would result in harmful interference to ATG systems and prevent the delivery of broadband ATG service. By contrast, an “exclusive use” model, whereby the Commission would auction ATG licenses to licensees on a flexible, exclusive basis, would ensure that sufficient unencumbered spectrum is available to enable the provision of broadband ATG without the threat of harmful interference. This is the same licensing model that has been successfully used with other commercial mobile radio services (“CMRS”), such as Cellular and Personal Communications Services (“PCS”), and has proven to be the best means to ensure the most efficient use of spectrum and the prompt delivery of innovative services to the public.

Importantly, there is only 4 MHz of spectrum available in the 800 MHz ATG band, and it has been demonstrated that a minimum of 3 MHz (2 x 1.5 MHz) is required to support broadband services.¹ While this means that only one 800 MHz ATG licensee will be able to provide broadband ATG service, it does not mean that the Commission must forgo its goal of promoting competition if only one “broadband” ATG license is auctioned in the 800 MHz

¹ See Ex Parte Letter of Qualcomm, Inc., filed Sep. 3, 2004; see also Ex Parte Letters of Flarion Technologies, Inc., filed Sep. 2, 2004 and Oct. 4, 2004.

band. As shown below, competition to provide broadband ATG service will exist as soon as the Commission establishes rules enabling the provision of high-quality broadband service in this band. Moreover, other spectrum bands would support the provision of non-satellite based ATG services, if the Commission wants to enable further competition.

I. SATELLITE-BASED ATG PROVIDERS COMPETE VIGOROUSLY WITH TERRESTRIAL-BASED SERVICES

As Airfone has demonstrated previously, satellite providers like Boeing and ARINC already provide ATG services to certain classes of customers, and clearly intend to provide broadband ATG services in the U.S.² Boeing is particularly well positioned to compete in the domestic ATG market. In 2001, it launched “Connexion by Boeing,” a fully operational global broadband ATG service provided to commercial aircraft as well as private and government aircraft. Today, Boeing provides Connexion to passengers on international flights between the U.S. and various international destinations, and is aggressively marketing such services to airlines for provision on domestic flights.

In 2003, ARINC introduced SKYLinkSM by ARINC DirectSM, a broadband ATG service provided to business aircraft.³ Earlier this year, it announced that it intends to extend this service to commercial aircraft, bringing “Internet, data, and entertainment connectivity to commercial airline passengers.”⁴ Just last month, ARINC announced that it has completed final performance tests and chosen a “wireless cabin” technology that will enable it to deliver these broadband services.⁵

Clearly, Boeing and ARINC already compete vigorously with Airfone in the provision of ATG service. Both have already begun to provide broadband services, and other

² See “Satellite Competition to Terrestrial Air-to-Ground Service,” Ex Parte Letter of Verizon Airfone, filed Sep. 7, 2004; *see also* Ex Parte Letters of Verizon Airfone, filed Sep. 22, 2004, Sep. 27, 2004, and Sep. 28, 2004.

³ See “SKYLinkSM by ARINC DirectSM Enters Production – First Satellite Broadband for Business Aircraft,” ARINC News, rel. Oct. 6, 2003, available at <http://www.arinc.com/news/2003/10-06b-03.html> (last visited on Oct. 1, 2004); *see also* “SKYLinkSM by ARINC DirectSM,” ARINC website, available at http://www.arinc.com/products/business_aviation_services/skylink.html (last visited on Oct. 1, 2004).

⁴ See “SKYLinkSM for Commercial Aircraft,” ARINC website, available at http://www.arinc.com/products/skylink_comm.html (last visited on Oct. 1, 2004);

⁵ See ARINC Selects MiltopeTM Wireless Cabin Hub for Future SKYLinkSM Inflight Internet Service,” ARINC News, rel. Sep. 21, 2004, available at <http://www.arinc.com/news/2004/09-21e-04.html> (last visited on Oct. 1, 2004).

satellite providers are able to do the same.⁶ Unfortunately, Airfone cannot provide such services, and therefore, is at a competitive disadvantage relative to satellite-based providers.

The airlines want the flying public to have access to broadband services.⁷ American Airlines, for example, has noted “the demand for data services continues to increase at a dramatic pace” and “consumer’s expectations of data rates continues to grow in lockstep with what consumers experience in the office and at home through T1, DSL, and Cable services.”⁸ The airlines also understand that the market for ATG services includes services provided by both terrestrial-based and satellite-based operators.⁹ To meet the growing demand for broadband ATG, the Commission must establish rules that facilitate the provision of high-quality, high-speed data services in the 800 MHz ATG band.

II. ALTERNATIVE SPECTRUM BANDS ARE AVAILABLE TO SUPPORT TERRESTRIAL-BASED ATG SERVICES

Airfone has been asked whether there are other spectrum bands that would support the provision of terrestrial-based ATG services. With flexible service rules, there may be a number of bands that could be used for ATG services. We discuss two specific candidates here.

1915-1920 MHz and 1995-2000 MHz: These bands were recently reallocated for Advanced Wireless Services (“AWS”) – a designation the Commission has given to a variety of new and innovative fixed and mobile services that are afforded substantial flexibility to adapt quickly to changes in technological capabilities and marketplace conditions.¹⁰ In doing so, however, the Commission notes that the spectrum may not be suitable for some kinds of AWS due to its close proximity to spectrum used for Broadband PCS, and the need to protect these incumbent services from harmful interference.¹¹ In particular, the potential for mobile

⁶ Boeing itself has acknowledged that there are additional satellite-based operators that are positioned to compete in the provision of broadband ATG services, including Inmarsat, AirTV and Hughes Network Systems. See Ex Parte Letter of The Boeing Company, filed Sep. 28, 2004.

⁷ See Ex Parte Letter of American Airlines (“*American Airlines Ex Parte*”), Aug. 30, 2004; see also Ex Parte Letter of Continental Airlines, Sep. 28, 2004.

⁸ *American Airlines Ex Parte* at x.

⁹ *Id.*

¹⁰ *In the Matter of Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Sixth Report And Order, Third Memorandum Opinion And Order, And Fifth Memorandum Opinion And Order (“*AWS Order*”), FCC 04-219, rel. Sep. 22, 2004.

¹¹ *AWS Order* at ¶ 17-19.

phones to interfere when in close proximity to one another may make it difficult to use the spectrum for Broadband PCS without causing harmful interference to PCS phones. The Commission notes that it may be necessary to set strict technical limits on the use of the spectrum, and has initiated a rulemaking proceeding to establish appropriate rules.¹² In the NPRM, the Commission notes that some mobile services – i.e., ATG services – would not raise the same interference concerns, and thus, might be supported in the band without the need for strict technical rules. We concur with the Commission that ATG service might be a suitable alternative use for the 1915-1920 MHz/1995-2000 MHz band.

2020-2025 MHz and 2175-2180 MHz: These bands were also recently reallocated for AWS, and thus, could be used for ATG.¹³ The 2020-2025 MHz band is adjacent to the uplink band planned for use by Mobile Satellite Service (“MSS”) licensees and spectrum used by the Broadcast Auxiliary Service (“BAS”), i.e., 2000-2020 MHz and 2025-2110 MHz, respectively. Consequently, it would be best used for the ground-to-air link. The 2175-2180 MHz band is adjacent to MSS downlinks, and could be used for the air-to-ground link.

These bands comprise a total of 20 MHz. Since it has been demonstrated that as little as 3 MHz of spectrum could support the provision of broadband ATG, it is possible that some portion of these bands could be made available to support multiple ATG licensees (in addition to the licenses awarded at 800 MHz), while making the rest of the spectrum available for other AWS uses.

III. THE COMMISSION’S GOAL SHOULD BE TO PROMOTE THE DEVELOPMENT OF BROADBAND ATG SERVICES

The airlines are exactly right in their assessments. The flying public wants access to the same kinds of communications services available to them on the ground – i.e., feature-rich voice, data, and video services that require broadband technology. In addition, owners of private aircraft, government agencies, and the airlines themselves want broadband services that allow them to use a variety of in-flight applications. Airfone is ready, willing, and able to meet these demands. Unfortunately, the technical restrictions imposed by the Commission’s rules and the limited amount of spectrum available in the 800 MHz band have made it impossible for Airfone, or any other terrestrial-based operator, to provide broadband ATG service.

¹² *In the Matter of Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz Bands*, Notice of Proposed Rulemaking (“NPRM”), FCC 04-218, rel. Sep. 24, 2004.

¹³ *See AWS Order*.

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The primary goal of the Commission in this proceeding must be to enable the provision of broadband ATG services. The Commission should not adopt rules designed to increase in-band competition if they impede the ability of terrestrial-based competitors to provide broadband service. Airfone has shown that the band-sharing rules proposed by AirCell and Boeing would severely impede the development of such services by creating harmful interference among ATG licensees and/or establishing restrictive technical rules that would preclude the delivery of broadband service.

Pursuant to Section 1.1206(b)(2) of the Commission's Rules, an electronic copy of this letter is being filed for inclusion in the above-referenced docket.

Sincerely,

/s/ Donald C. Brittingham_____
Donald C. Brittingham

cc: Bryan Tramont
Sheryl Wilkerson
Sam Feder
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